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## ABSTRACT

This paper presents an introduction to attention deficit disorder (ADD). Answers are provided to common questions including "What Is Add?" "What Behaviors Does ADD Cause?" "How Can We Tell If A Child Has ADD?" "What Causes ADD?" "What Can We Do about ADD?" "How Does ADD Affect School Performance?" "What Are the Legal Rights of Children with ADD?" and "What Happens to Children with ADD?" The booklet proposes that through supervised use of medication, counseling, behavior management, and modification of classroom lessons, children with ADD can experience academic success and fulfilling lives. (PB)

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# **ATTENTION DEFICIT DISORDER: Adding Up the Facts**

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In any group of children, there is usually one child who never sits still. Frequently and easily distracted, the child fidgets, glances about aimlessly, and seems to allow his mind to wander freely. This child attracts the predictable adult response: "Why can't you sit still and listen?" In school, the often bright but disruptive "troublemaker" may never learn to listen or do what others seem so effortlessly to do — pay attention.

## **What Is ADD?**

Impulsive behavior, a tendency to be distracted, and hyperactive movement may not be the conscious choice of a "disruptive" child. These behaviors are symptoms of a condition called Attention Deficit Disorder (ADD). It is the disorder, not the child's own will, which is the true culprit, since it literally disrupts a child's ability to concentrate.

In its most commonly diagnosed form, ADD is accompanied by hyperactivity and is sometimes called Attention Deficit Hyperactivity Disorder (ADHD). In addition to the inability to concentrate and the tendency to behave impulsively, children with ADHD have difficulty remaining still for even short periods of time. While these children are inattentive, fidgety, spontaneous to a fault, forgetful, and easily distracted, their "misbehavior" is not a choice but a result of the disorder.

School children with ADD often have multiple problems with schoolwork and social activities. They focus on their teacher only with great difficulty. They have trouble remaining seated, following instructions, concentrating on a single task, waiting for their turn in any activity, and simply finishing their assigned work. While these behaviors are not in themselves a learning disability, 10 to 33 percent of all children with

ADD also have learning disabilities.

Children with ADHD are often aggressive and rejected by their peers, while children with ADD (without hyperactivity) are more withdrawn and unpopular. Both types of children with ADD commonly do not cooperate with others and are less willing to wait their turn or play by the rules. Their inability to control their own behavior may alarm themselves and other children and cause them to become isolated. As a result, their self-esteem suffers.

There are an estimated 1.46 to 2.46 million children with ADD in the United States (3-5 percent of the student population). Most are boys (ADD is diagnosed four to nine times more often in boys than in girls); and because they are less disruptive than children with ADHD, many children who have ADD without hyperactivity go unrecognized and unassisted.

ADD, however, is not limited to children, although for years it was assumed to be a childhood disorder, visible as early as age three, that disappeared with the advent of adolescence. It is now known that many children with ADD do not grow out of it as they age.

Although ADD is a serious and persistent disorder, research indicates children with ADD can be helped. The first step is the recognition that ADD exists — that it is real. The understanding that follows recognition must then lead parents, teachers, school administrators, psychologists and health care professionals to learn to work together for the good of the child. As a team, they can guide the child in developing techniques that can turn repeated failure into continuous progress.

## **What Behaviors Does ADD Cause?**

While much of the behavior attributed to ADD also is found in children without ADD, there are several important and distinguishing characteristics that reveal the presence of the disorder. Children with ADD are impulsive, hyperactive, and distractable beyond what is considered "normal" for their age. They exhibit extreme behavior in many different settings and situations over a long period of time. While this behavior often is observed before children start school, it becomes extremely visible in the more structured school environment.

In addition, the American Psychiatric Association (APA) maintains ADD can be defined by the behaviors it causes. They include, for example, the following:

- Fidgeting with hands or feet or squirming in their seat (adolescents with ADD may appear restless);
- Difficulty remaining seated when required to do so;
- Difficulty sustaining attention and waiting for a turn in tasks, games or group situations;
- Blurt out answers to questions before the questions have been completed;
- Difficulty following through on instructions and in organizing tasks;
- Shifting from one unfinished activity to another;
- Failing to give close attention to details and avoiding careless mistakes;
- Losing things necessary for tasks or activities; and
- Difficulty in listening to others without being distracted or interrupting.

Children with ADD show different combinations of these behaviors. For instance, children with ADD without hyperactivity do not show excessive activity or fidgeting, but instead daydream, are lethargic or restless, and frequently do

not finish their academic work.

Not all of these behaviors appear in all situations. A child with ADD will be able to focus when he or she is receiving frequent reinforcement or is under very strict control. Ability to focus is also common in new settings, or while interacting one on one (including playing video games). While other children may occasionally show some signs of these behaviors, in children with ADD the symptoms are more frequent and severe than in other children of the same age. As children grow older, the behaviors affected by ADD change. A preschool child may show gross motor overactivity — always running or climbing and frequently shifting from one activity to another. Older children may be restless and fidget in their seats or play with their chairs and desks. They frequently fail to finish schoolwork, or work carelessly. Adolescents with ADD tend to be more withdrawn and less communicative. They are often impulsive, reacting on the spur of the moment without regard to previous plans or necessary tasks and homework.

## **How Can We Tell If A Child Has ADD?**

Although very young children may show characteristics of ADD, some of these behaviors are in fact normal for their age. Even with older children, other factors, including environmental influences, can produce behavior resembling ADD. Therefore, a diagnosis of ADD cannot be made by teachers or school administrators acting alone, but rather by a team of professionals working with the parents and the child believed to have ADD. This team follows a two-tier evaluation process to first determine if the child has ADD and then to decide the best treatment for the child's individual educational needs.

Any diagnoses of ADD must be done by examining the child's history through interviews with parents, teachers, and health care professionals in order to determine when the behavior began and whether the child displays the behavior characteristics of ADD in many different settings.

To help with this, parents and teachers should complete a form asking them to measure and rate the frequency and severity of the child's

behavior according to a fixed rating scale. The team will examine this information and determine a course of action agreed to by the parents. Physicians should perform a medical exam to check for problems with hearing or vision, and perhaps may administer neurological examinations. Parents are frequently requested to provide detailed family and developmental history as well as information about the child's abilities, interests, and behavior. A specialist should visit the classroom to observe the student's behavior and examine the amount of work accomplished over a set period of time. The specialist, frequently a psychologist, will assess the child, his or her ability to control his or her actions, and check for other emotional and learning disabilities.

While there is no single test for ADD, an accurate diagnosis can be made by combining observations, tests, and other measurements gathered from parents, teachers, psychologists, physicians, and the child.

Once the observation and testing is complete, the team will review the results and decide whether or not the child has ADD, and if the child needs special services. From this information, the specialists involved can develop a treatment and an education plan which directly address the child's learning problems and characteristic behavior.

### **What Causes ADD?**

Studies on brain modeling and brain imaging show differences in the brains of children with ADD. However, the causes of these differences are not yet known. Most scientists suspect the cause of ADD is genetic or biological, although they acknowledge that environment helps determine the specific behaviors of an individual child.

Some believe ADD may be caused by an imbalance of neurotransmitters (chemicals used by the brain to control behavior) or by abnormal glucose metabolism in the central nervous system.

In addition, a child may develop ADD because of problems in the child's development before birth or neurological damage. Frequently, the same biological factors that influence ADD

may also affect learning disabilities, since many children display signs of both. While some people claim that ADD is caused by food additives, sugar, yeast, or the actions of parents, there is no evidence to support these beliefs.

### **What Can We Do About ADD?**

While there is no known cure for ADD, the effects of ADD can be reduced through an approach that combines medicine, psychology, and education. Medication produces a clear and immediate short-term effect in behavior, but should not be used as the only treatment, because the long-term effectiveness of drugs is unclear.

Stimulants such as Ritalin, Dexedrine, and Cylert allow the brain and nervous system to communicate with the rest of the body more effectively, which improves attention span, concentration, motor control, and on-task behavior, while reducing hyperactivity.

From 60 to 90 percent of school-aged children with ADD are treated with stimulant medication for a prolonged period of time. However, medication is not a total solution. While studies show that stimulants effectively calm 70 percent of children with ADD, this effect decreases over time, and most studies show that medication results in few long-term benefits on academic achievement and social adjustment.

In addition, medication may have side-effects. Some children lose weight, lose their appetite, or have problems falling asleep. Less common side effects include slowed growth, a tic disorder, and problems with thinking or with social interaction. These effects usually can be eliminated by reducing the dosage or changing to a different medication.

An effective non-medical treatment is to help children learn how to control their behavior. Many teachers and parents use a form of positive reinforcement in which the child is rewarded for good behavior. This sometimes is combined with negative reinforcement, in which the reward (or the points used to reach the reward) is removed for bad behavior. Children with ADD perform best when they have an organized structure with consis-

tent rules so that they can clearly understand what they are doing and what they should do next.

Psychologists and social workers can work with children with ADD on their self-esteem, anxiety, and social skills. They can help children understand their problem and develop coping mechanisms to succeed.

Teachers, parents, doctors and other health care professionals can work together to devise a plan to improve behavior and to develop alternate methods of education. General teachers should work with special education teachers to establish methods for adapting their regular curriculum and teaching techniques to the needs and abilities of students with ADD. Parents and teachers should communicate regularly to avoid confusing children with ADD with different strategies and expectations.

### **How Does ADD Affect School Performance?**

Children with ADD are usually identified in school only after they consistently demonstrate their failure to understand or follow rules or complete required tasks. The most common referrals to special education are those for children who frequently disrupt the class, show a lack of attention, and exhibit poor academic performance.

While ADD is not a learning disability, the difficulties students with ADD have in focusing their attention reduces the amount of work they can accomplish, even when they show strong academic ability. Studies demonstrate that the ability to concentrate and focus is a better predictor of academic success than other measures of academic ability. For example, if a student is distracted and does not finish a test, most teachers do not give credit for blank responses, even if the student knows the answers.

Other factors also interfere with the ability of children with ADD to learn. These children make careless errors and respond without thinking. They frequently have trouble judging the importance of different information, losing main ideas in a flood of trivia. Some children with ADD have difficulty with abstract ideas, including the concept

of cause and effect. Other students frequently cannot manage several different tasks at once, are poorly organized, or lose objects needed to perform tasks.

On average, children identified as hyperactive are at least three times more likely to stay back a grade and be suspended from school than children without ADHD.

### **What Are The Legal Rights Of Children With ADD?**

The Federal government has established several legal provisions that affect the education of children with ADD—the Individuals with Disabilities Education Act and Section 504 of the Rehabilitation Act of 1973. Students with ADD, like students with any other disability, do not automatically qualify for special education and related services under the IDEA without meeting certain conditions.

If a child with ADD is found not to be eligible for services under Part B of the IDEA, the requirements of Section 504 of the Rehabilitation Act of 1973 may be applicable if he or she meets the Section 504 definition of disability, which is any person who has a physical or mental impairment which substantially limits a major life activity such as learning. Thus, depending on the severity of their condition, children with ADD may or may not fit the definition of either or both laws; not all children with ADD are covered.

Although ADD is not a separate disability category under the IDEA, children with ADD who require special education and related services can be eligible for services under the "other health impaired" category of Part B of the IDEA when "the ADD is a chronic or acute health problem that results in limited alertness, which adversely affects educational performance." Children with ADD may also be eligible for services under the "specific learning disability" or "seriously emotionally disturbed" categories of the IDEA when they have those conditions in addition to their ADD.

These laws require schools to make modifications or adaptations for students whose ADD results in significant educational impairment.

Children with ADD must be placed in a regular classroom, to the maximum extent appropriate to their educational needs, with the use of supplementary aids and services if necessary. While children covered under the IDEA must have an Individual Education Plan (IEP), students covered under Section 504 need a less formal individualized assessment.

However, when important changes are made in the regular education classroom, about half the children with ADD succeed in that setting without special education. Such changes may include: curriculum adjustments, alternative classroom organization and management, specialized teaching techniques and study skills, use of behavior management, and increased parent/teacher collaboration. Of course, the needs of some children with ADD cannot be met solely within the confines of a regular classroom and they may need related aids or services provided in other settings.

### **What Happens To Children With ADD?**

One-third to one-half of children with ADD continue to show signs of ADD as adults. While they may gain greater ability to focus their attention, their level of impulsive behavior remains inappropriate for their age. They frequently are unorganized, forgetful, and unproductive. ADD thus can affect its victim's college education, employment, and relationships with others. In fact, some adults with ADD were not diagnosed as children and recognize the disorder only when their children's similar problems are diagnosed as ADD.

### **Children With ADD Can Succeed**

While children with ADD have greater difficulties than most other children, their problems can be reduced through early identification and careful treatment. Parents and teachers can help by remembering the child does not choose to behave disruptively. Children with ADD do want to control their behavior and do try to obey their parents and teachers.

Once parents and teachers understand this, and once they recognize that children with ADD are not lazy or "bad," but have a biological disorder, they can stop blaming themselves or their children and take appropriate steps to prevent a pattern of failure that leads to low self-esteem and hopelessness. Through the supervised use of medication, counseling, behavior management, and modification of classroom lessons, children with ADD can most certainly learn what they need to succeed as attentive and productive members of society. With adult patience, understanding, and assistance, children with ADD can indeed sit still and listen and learn.